

GRID Logistics Inc. (GLI)

David J. Alba Co-Founder & President

November 2015 Business Plan

411 S. Hewitt Street, Los Angeles,
California 90071

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To view The GRID Logistics Story video, see www.gridinc.biz.

Introduction

Letter from the CEO:

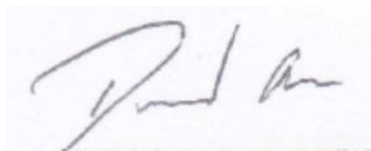
Rapidly emerging industry demand and a crisis-like environment exist due to the world's next generation "Ultra Large Container Vessels"(ULCVs) cruising today's oceans. The immediate enormous discharge of containers from these berthed vessels inflicts unanticipated pains on port and inland transportation infrastructure throughout the global supply chain. The container shipping sector is now grasping for solutions. Incremental changes cause downstream inefficiencies. Only a comprehensive solution will suffice.

With bold vision, GRID Logistics, Inc. (GLI) is developing the cutting edge of large scale freight transportation infrastructure having high performing, and clean energy efficient platforms. The GRID design was created using California's San Pedro Bay, the 8th largest container gateway in the world, as a global template. GLI will create maximize container ship and train efficiency while improving quality of life for those closest to freight corridors.

GLI leads a creative project design team developing a comprehensive deal structure within the established framework of Public-Private Partnerships (P3) and Design-Finance-Build-Operate-Maintain (DFBOM) development. The infrastructure GLI proposes consists of container moving platforms powered by electricity, transferring containers through a new tri-modal logistics supply chain, connecting next-generation ULCVs to and from smaller ships, freight trains, semi-trucks, and inland warehousing. This innovative holistic project proposal estimated at \$18B has been endorsed by the Sierra Club, numerous labor unions, business leaders, logistics experts, and finally, local politicians on the local, state, and national level, as worthy of thorough evaluation and potential inclusion in the Regional Transportation Plan. The intellectual property of the design is secured by patents secured or pending around the world.

Today, with our strong team of experts and a growing cadre of supporters, advisors, and investors, GLI is well positioned towards development of this P3 and 21st Century "project of national significance".

David Alba

A handwritten signature in dark ink, appearing to read "David Alba", is shown on a light-colored background.

Co-Founder & CEO

GRID Logistics, Inc.

Company Overview

Founded in 2011 by David J. Alba and Richard I. Mueller, GRID Logistics, Inc. (GLI) is a start-up container shipping logistics company proposing innovative freight transportation infrastructure. GLI is pioneering a transformation of the 50-year-old conventional container movement industry by engineering a seamless integration of ship-train-truck container movement between port complexes and inland destinations. This state-of-the-art design is a practical, scalable, cost-efficient, and exportable container management system capable of generating long-term operational revenue. Our primary service comprises loading and discharge of all ships, including next-generation ultra-large container vessels (ULCVs), Class 1 trains, and utilizing our proposed underground electrified drone train circuit with new crane and intermodal container terminal designs. The GRID systems will improve:

- Ship loading and unloading; reducing all vessel dwell times by up to 70%
- Train processing; reducing Class 1 train discharge and load-back time by up to 90%
- Environmental impact; reducing pollution caused by the goods movement system
- Reducing road damages and traffic congestion caused by truck drayage by implementing a sub-surface right-of-way for regional container transport using an electric drone train system.

These efficiency improvements will encourage shippers and railroads to use the GRID infrastructure in order to maintain competitiveness. This system has been endorsed by the Sierra Club and numerous labor unions representing tens of thousands of workers in Southern California.

Mission Statement

GLI will streamline the transportation of containerized cargo throughout the supply chain.

Management Team

GRID Logistics is building the company framework to include strategic partners who can give the company global reach, executive leadership and project partners. Partners will initially provide 3rd-party project feasibility and business modeling, and eventually form the consortium to finance and build the project. While acquiring seed capital, GLI is forming an advisory board with top-tier political, legal, financial, engineering, and logistics experience. Advisory Board members have agreed to provide pro-bono assistance pending development of sufficient funding to pay consultants.

Current GLI officers are experienced in heavy construction materials fabrication, lobbying, port logistics, and leadership of \$100M+ companies, but do not have the experience of building a project on this scale. GLI has been identifying potential leaders world-wide for the project build in anticipation of funding sufficient for such hires. Pending hires, the management team that has brought this vision to its current position of feasibility through determination and

frugality includes the following:

David J. Alba, CEO, President, Co-Founder. A native Angeleno and port dock manager for many years, Dave originated the design of the SuperDock™ to streamline the movement of ISO containers through the ports and beyond. David discovered that the innovations he envisioned created tremendous opportunities not only for the ports, but for private investors, the regional and national environment, the region's economy, and jobs creation. Dave graduated from the University of Southern California with a degree in International Relations.

Richard I. Mueller, Executive Vice-President, Co-Founder. The former president of the Water Transmission Group at Ameron International Corporation and current president of the American Concrete Pressure Pipe Association, Richard is a licensed professional engineer in California, Texas, and Oklahoma. He has been involved in the design and fabrication of large diameter pipe and pipelines for over 30 years and is experienced in the research and design of using such pipe for transporting solid freight. The Dallas Chapter of the Texas Society of Professional Engineers recognized Richard as "Engineer of the Year" in 2000. He was selected a Distinguished Civil Engineering Graduate of Texas A&M University in 2011. He graduated Summa Cum Laude in Civil Engineering from Texas A&M University, and has a Masters of Engineering Management from Southern Methodist University.

Sherwood H. Egbert, Vice-President of Business Development. Sherwood continues to be intimately involved within his family-owned company, Shapco Inc., which included / includes subsidiary companies Kelly Pipe Co LLC (sold 2015), Custom Pipe & Coupling Inc., Imperial Pipe Services LLC, and Lavi Systems, Inc., giving him a wealth of business knowledge and applied experience within the steel pipe and aerospace manufacturing industries. In addition to his family business, Sherwood also gained port-related experience working for the air quality group within the Environmental Management Division at the Port of Los Angeles during his time at USC. He graduated from the Environmental Studies and Earth Sciences Departments at the University of Southern California with a B.S. degree in Environmental Studies, and a minor in Geology.

Rick Risemberg, Vice-President of Community Outreach. Rick has been writing about and working on sustainable transportation and development for over twelve years. He edits two online magazines, contributes to online and paper publications, including planning journals, and consults with organizations such as Carfree Cities and the Los Angeles County Bicycle Coalition. He sees in GRID an opportunity to help realize a triple-bottom-line project that is socially, environmentally, and financially sustainable and beneficial—one that may change how development is perceived in the United States for generations to come.

The GRID Project

Overview

GLI is not only proposing a system to optimize port productivity and connectivity to inland markets, but to also provide a model for sustainable infrastructure in major port complexes around the world. Our system will drastically reduce port-related emissions and traffic congestion, plus yield substantial acreage for real estate development. Below is a detailed description of our three-pronged regional solution - the GRID Project, as proposed for San Pedro Bay in California - that includes the SuperDock™, Freight Pipeline, and Inland Feeder Terminals.

SuperDock™ Description

The SuperDock™ is designed to be arranged in a modular sequence to allow the SuperDock™ to be scalable to larger or smaller volume ports, or to be built incrementally. It can allow for berthing on either one or both longitudinal sides. The shore end or side of the SuperDock™ can have up to 24 Class 1 rail sidings, each ½-mile or longer. The SuperDock™ itself can have more than 5000 cells to allow storage of containers in the same manner that containers are stored in the hulls of container ships, sorted by size, and additionally sorted by destination. The high density of cranes and conveyors on the SuperDock™ will move containers between Class 1 trains and ships, or between ships, in real time, when they are simultaneously berthed at the SuperDock™, or the containers will be moved to the vertical storage cells for temporary storage until the receiving vessel arrives. Cells will be provided for each length of container: 20', 40', 45', and 53', including refrigerated containers. The Class 1 railroads' logistics experts, who encouraged GRID Logistics to continue its development, have fully vetted this operational rationale.

The length and layout of the SuperDock™ will permit near-direct transfer of containers from ship to ship, provided the ships are simultaneously berthed at the SuperDock™. In the event ship-to-ship transfer is desired but the receiving ship is not in port, some cell-based or land-based storage of containers will be required. An image of the SuperDock™ can be seen on the cover of this business plan.

The Freight Pipeline

The freight pipeline, shown for an example application in Southern California in Figure 1, is the conduit for increasing container throughput for regional deliveries without requiring additional freeway construction or expansion to accommodate increased trucking. Figure 3 shows a proposed pipeline route that would link the SuperDock™ with seven inland feeder terminals, shown as green dots, located near freight distribution warehouses, shown as blue dots. The 15-foot-diameter, subterranean pipeline will provide single direction circulation of drone container trains traveling between the SuperDock™ and inland feeder terminals. Containers would intersect with the surface at the feeder terminals, for “last mile” delivery only by trucking to and from the warehouses. The freight

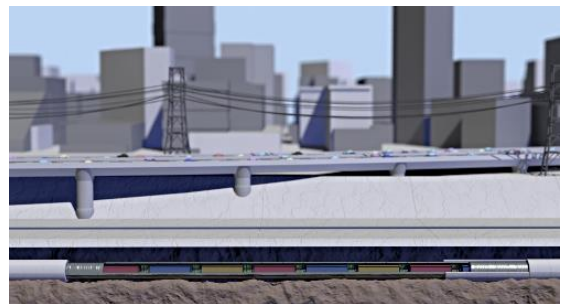


Figure 1: Freight Pipeline Side-View

pipeline will serve locally designated cargo currently transported via truck drayage. Since the freight pipeline will only serve unmanned drone trains, it will not require the lighting, ventilation, and similar full-scale life support systems applicable to subways. Hence, its base building cost is comparable to that of large storm drains, with the addition of powered rail and life support systems only as required for maintenance.

Inland Feeder Terminals

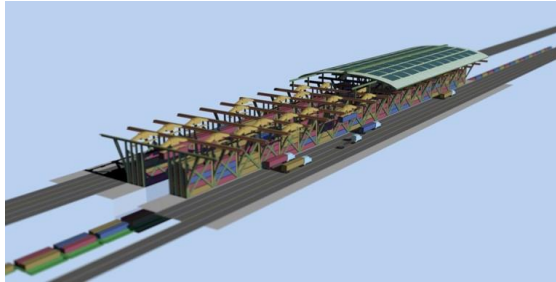


Figure 2: Feeder Terminal

limited to a reasonably short radius around each feeder terminal, repurposing the trucks to last-mile deliveries within local distribution zones. This ultimately allows the trucker to complete many more deliveries per day, rather than traveling to and from a port complex for one inland container delivery, expending fuel and contributing to freeway congestion.

Performance and Societal Advantages of the SuperDock™ and Freight Pipeline

The SuperDock™ and the subsequent distribution of containers through the freight pipeline will provide the following advantages to port regions and surrounding communities.

- 1) Turn-around time for Class 1 trains delivering containers to areas outside regional boundaries will be significantly reduced.
- 2) Ship loading and unloading times will be reduced by 60-70%.
- 3) Due to the unloading speed of the SuperDock™, all container ships, including the new “post Panamax” ships, will be more profitable berthing at the SuperDock™.
- 4) Substantially lower emissions will result from using only electric power for the SuperDock™ and freight pipeline.
- 5) Significant reductions in port-related container truck traffic on local highways will result in lower diesel emissions, lowered congestion, improved commuter safety, and reduced need for highway maintenance, repair, and expansion.
- 6) 100% of containers can be x-ray inspected as each is lifted from the ship to the SuperDock™, enhancing national security.

Inland feeder terminals (Figure 2) are proposed along the pipeline at strategic locations, near existing freight consolidation warehouses, factories, or other sources or destinations of goods. These terminals will allow local truck access to containers flowing in the freight pipeline between the feeder terminals and the SuperDock™. The feeder terminals will transfer containers between the pipeline and trucks, and are designed to be similar to the SuperDock™ with vertical storage. Truck travel zones will be generally

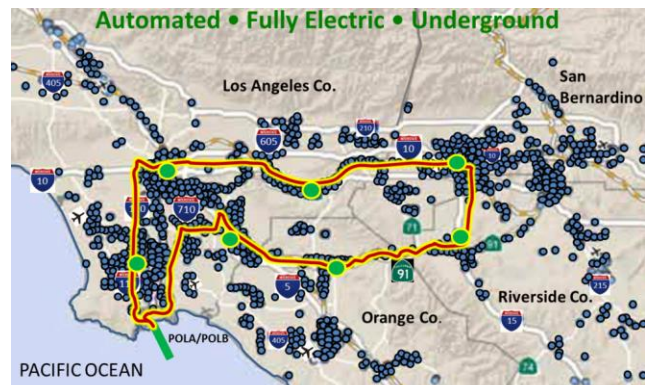


Figure 3: GRID Project Map for Los Angeles area

- 7) The entire infrastructure will be built without interfering with current transportation modes.
- 8) Expensive near-dock container transfer facilities are not required, since the SuperDock™ would load and unload trains, including unit trains, more efficiently, right at the waterside.
- 9) Reduced turn times for both ships and trains will make container shipment between US locations significantly faster than through the Panama Canal.
- 10) Thousands of acres of land currently used for container storage will be freed for higher-value port real-estate development.
- 11) The SuperDock™ and freight pipeline will pay for themselves with money already spent in the current system's inefficiencies, so no new public debt will be incurred and no new increase in transportation costs will be added to the cost of shipped goods.
- 12) Total capacity of a fully built SuperDock™ system is estimated to approach 50M TEU, which can be built incrementally as volumes increase without impacting commissioned service.
- 13) The Freight Pipeline can be expanded to provide underground delivery of goods to future transit-oriented developments, reducing the need for additional highways to be built in already congested urban areas.

These advantages have been vetted not only by intermodal experts at both Burlington Northern-Santa Fe (BNSF) and Union Pacific (UP) railroads, but further vetted and presented to the world through Port Technology International. Port Technology International's article (www.porttechnology.org/news/grid_logistics_smashes_pti_records) on the GRID system received the highest response in their history and has resulted in invitations to panel discussions on port systems around the world.

Intellectual Property Protection

The SuperDock™ has successfully secured patent protection in China and the United States and is currently patent-pending in Europe, and other selected countries around the world.

Seismic Survivability

When considering major infrastructure projects in many ports, particularly around the Pacific Rim, a natural cautionary issue is the subject of earthquake durability. According to Murthy Krishniah, executive director of Transit Project Delivery for Los Angeles Metro in California, in contrast to above-grade structures, "tunnels are the safest place to be during an earthquake, because the tunnels move as one unit with the ground." Hence, post-earthquake, the freight pipeline is more likely to be in operation than at-grade or above-grade structures. Current tunnel design technologies address nearly all issues associated with ground movement. While the freight pipeline designs are being developed, geologic tectonic information and technologies will be incorporated.

Market Analysis

Industry Background

Global container shipping is a \$400 billion a year industry with a cargo value of approximately \$4 trillion per year. While half of the sector's operating costs are allocated for fuel, 37% is applied to the transfer of containers from ships, trains, and trucks inside container terminal facilities. Reducing the time to load and unload cargo across different modes of transportation will generate significant savings to the shipping carriers, and regional railroads, as well as create business opportunities for the hosting port authority. With the emergence of ultra-large container vessels, the shipping industry has shifted towards forming vessel-sharing alliances, such as the one between Cosco, Hanjin, Yang Ming, K-line, and Evergreen, in order to increase economies of scale. This shift will drive the need for increased trans-shipment activities, which will require innovative and disruptive port upgrades that have yet to be realized in the United States.

Market Pains, Needs and Trends in Container Shipping Industry

The Container Shipping Lines

A paramount objective of the shipping industry is to build ULCVs and operate them with minimum port-of-call stops and berth times. With about half of the operating costs borne by shipping companies allocated to fuel, shipping carriers are seeking to increase their economies of scale by forming vessel sharing alliances. As a result, ULCVs are being built with capacities of 16,000 TEU+, lowering the daily operating expenses for containerships per TEU. This trend is led by Maersk Shipping Line's Triple E Class container ships with an 18,000 TEU capacity. The development of the Triple E and similar ships, combined with the SuperDock™, creates a strategic opportunity for the SPB Ports.

As more of these ULCVs are used, transshipment activities at major port complexes will become more important. A mega-vessel loading to capacity at one harbor, and steaming directly to a port capable of one-stop total discharge and load-back would permit the full economies of scale sought for these super-sized ships. With the implementation of a SuperDock™, the hosting port could become a major hub-and-spoke distribution center for transshipment operations serving the several locations on the east coast of Asia, or the North American West, Gulf, and East Coasts, including Canada, Mexico, and Central America.

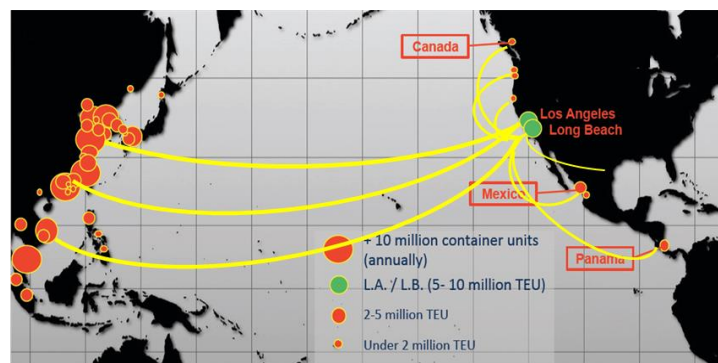


Figure 4: Pacific Rim Port Complexes

It is important to note that in the United States, the GRID Project could qualify as a “project of national significance” designated by the U.S. Government. Within this legislation, the need to exempt SuperDock™ from the Jones Act of 1920 would allow neighboring United States’ ports to perform transshipment functions from one U.S. port to another. California would thus join

Hawaii, Guam, Alaska, and Puerto Rico's recent resolution efforts through the Congress for the exemption.

Class 1 Railroads

BNSF and UP acknowledge that in the ports of Long Beach and Los Angeles the operational redundancy of the multiple terminals is the central obstacle to streamlining their port-related operations. Containers must be gathered from and distributed among a sprawl of redundant terminals in which the costs, in terms of time and money, are significant. This results in long turn times for a train arriving with export containers and then leaving with import containers. In San Pedro Bay, Class 1 turn times can be reduced by up to 90% as a result of SuperDock™ operations. Almost all ports around the world share the fractured, multi-terminal layout used in San Pedro Bay, so the need for streamlined container movement resulting from terminal consolidation utilizing a SuperDock™ system is nearly universal.

Truck Drayage Companies

As freight volumes continue to rise at major port complexes, the truck population needed to transport additional containers to their end destinations must also increase. This will exacerbate logistic bottlenecks in the port complex, increase truck turn times, and increase congestion on area freeways. According to the transportation consulting firm Tioga Group, excessively long turn times for trucks and inefficient handling of containers is causing significant costs to the supply chain and wasting large volumes of fuel, contributing to air pollution in port communities across North America. A breakdown of impacts, composed by the Tioga Group, is provided in Table 1 below:

Cost of Delays	Hours Wasted	Value of Time Wasted (\$)
Chassis Problems	7,000,000	\$156,000,000
Terminal Wait Times	4,000,000	\$90,000,000
Queue Time	3,000,000	\$79,000,000
Trouble Tickets (5% of drivers)	1,000,000	\$23,000,000
<u>Total</u>	<u>15,000,000</u>	<u>\$348,000,000</u>

Table 1: Cost of Truck Drayage Delays ¹

In addition to lost hours and value to the supply chain, 9 million gallons of diesel fuel were wastefully burned idling in port complexes. Daniel Smith, Principal of the Tioga Group, stated at the 2014 TPM conference, "Cutting just 10 minutes off terminal turn times would save 4 million driver hours, which translates into \$90 million."⁴

National Security

A key component of streamlining container movement through the ports is streamlining clearance of goods through national security programs such as Customs for the United States. Besides scanning of all containers, GLI will pursue other methods of assuring security compliance while increasing transit speed of containers through the ports. These processes can and will be developed and proven during system construction.

^{1, 4} Bonney, Joseph, and William Cassidy. "What's Needed to Ease Drayage Gridlock? Cooperation." *Journal of Commerce* 31 Mar. 2014. Web. <www.joc.com>.

Strategy and Implementation of the GRID Project

Key Stakeholders

The GRID Project will require a range of stakeholders representing various different industries involved in the transportation of containerized cargo. Among the various regional stakeholder interests, GLI expects to be involved with the host-city of any proposed Inland Feeder Terminal or site along the Freight Pipeline. The following represents rationale for expected support from stakeholder interests:

Container Shipping Lines

The major shipping alliances will benefit from the GRID Project by being able to load/unload container ships rapidly and efficiently. By significantly reducing the time spent in ports, GLI systems will increase the utilization of shipping line assets.

Ports

GLI building a SuperDock™ and freight pipeline feeder system for a port will allow the port to decrease their footprint, both physically and environmentally. This will yield acreage for redevelopment, increase productivity, reduce berth times for vessels, trains, and trucks, and increase operational revenue. GLI also will take the risk of financing the infrastructure.

Class 1 Railroads

GLI systems and technologies will reduce the turn times for Class 1 trains and thus improve the efficiencies of their operations and logistics. By allowing the premier Class 1 railroads in port complexes to bypass near-dock container transfer facilities, the GRID system eliminates significant operational costs in re-handling containers near the port for building trains to various destinations in the interior. Rather, trains will be assembled at dockside and sent directly to major rail yards across the country and continent.

Truck Drayage Companies

Truck drivers are plagued by lost travel time sitting in traffic on the freeways and in port delays; this results in significant losses of revenue generated for the driver. While the freight pipeline eliminates the majority of truck trips to and from the port complex on surface freeways, the overall productivity of the trucking fleet will be bolstered. By relegating these trucks to last-mile deliveries near local warehousing clusters, the trucking fleets will be allowed to make more trips per day and thus deliver more containers per day and per truck unit than the previous model.

Government

GLI will work with relevant government officials at local, regional, and national levels to ensure that all associated parties are satisfied with the design-finance-build-maintain-operate proposal in terms of legality, social and environmental responsibility, and economic prosperity.

Unionized Labor

While developing the original project site proposal for Southern California, the company's founding region, GLI fostered support from various labor groups provided the project is built under a project-labor agreement (PLA). These include:

- Laborer's International Union of North America (LIUNA)
- Building and Construction Trades Council of Los Angeles, Orange, Riverside, and San Bernardino Counties
- International Brotherhood of Teamsters at West Coast Leadership
- Operating Engineers Local 12

GRID Logistics, Inc. supports excellent labor relations, safe working conditions, and the growth and development of a skilled labor force.

Environmental Advocacy Groups

One of the first milestones completed by GLI was securing grassroots support from United States' largest environmental advocacy group, the Sierra Club. The ancillary environmental benefits of the GRID Project coupled with Sierra Club support will allow GLI to foster additional support within any environmental community. Grass roots reach-outs to smaller nonprofit groups will continue as an on-going task. This environmental support will aid GLI in streamlining the future environmental impact review (EIR) processes, if done within the United States or other countries with similar processes.

Social Justice Community Groups

The ancillary benefits of the GRID Project indirectly improve the impacted communities near freeway corridors and port activities. With the reduction of cargo-related emissions and traffic congestion, impacted areas will experience a decrease in particulate emissions, which have been identified as the primary cause of heart and respiratory diseases in these communities. The GRID Project will also create thousands of construction and labor jobs, particularly jobs in under-represented communities, thus creating economic and social prosperity in communities that represent a region's labor force most in need of re-employment.

The GRID Project: A Public-Private Partnership (P3) Model

A P3 model is a contract involving a government agency and a private sector company to build projects that affect the region in which it is proposed. P3 models are increasingly being used to develop costly projects that governments realize will benefit their regions but for which there is insufficient taxpayer funding available. In a "Demand-Risk" P3, the government entity provides those contributions to a project necessary to attract private engagement and investment, and the investors take the risk to be repaid by and profit from the project's concession revenues.

In the case of GLI, a Demand-Risk P3 model will be highly beneficial for implementing the system. The Project requires land easements from governmental agencies that own the land on which the SuperDock™ is proposed to be built, as well as the rights-of-way for a freight pipeline, where applicable. Land for potential Inland Feeder Terminal sites will need to be purchased or permitted for use, likely from local governments or private entities. Condemnation rights or assistance may be required.

Government provision of these land easements will allow GLI to form a private consortium of companies to complete the Design-Build phases of the GRID Project without the use of taxpayer funds. Government support could contribute to establishing technical trade schools to educate the next generation of construction and logistics professionals.

Design-Build-Maintain-Operate (DBMO) Model Description

The GRID Logistics team is coordinating with government agencies, researchers, contractors, engineers, and financiers to complete the three phases of work required to make our vision a reality.

Design Phase

During this on-going process, GRID has been reviewed and scrutinized by a variety of experts. Container freight logistics professionals at both Union Pacific and Burlington Northern Santa Fe have recognized the GRID proposal as technically superior to any other alternative under consideration for California. Stevedore crane manufacturer AM Clyde has determined that the SuperDock™ design can be built with current technologies, and that the cost estimates appear reasonable. General design, constructability, and cost of the freight pipeline proposed for the Los Angeles area have been discussed with Jacobs Associates, Southland Contracting, J.F. Shea Construction, and Griffith Company, among others. None of these companies presently has any stake in GRID. The preliminary opinion of all of these experts is that the project design is technically sound, and they have provided guidance regarding cost estimates.

During this first phase, an industrial engineering “proof-of-concept” development is to be conducted. This development will include proof of functionality and give an indication of its superior economic performance. Coordination with an engineering design partner will allow confirmation of building costs.

While that verification is underway, GLI will form a private consortium of engineers, contractors, and suppliers to develop design, construction, and financing options. Funding may come from stock sales and tax-advantaged bonds for the members of the consortium to design, build, and supply materials for the project under fixed-price contracts. GLI has also been approached by one of the world’s largest P3 contractor/concessionaires seeking potential partnership for financing, designing, and building the GRID project in California. The consortium will be the “private” side of the public-private partnership, and will be organized into a special-purpose company ready to begin work as soon as financing and permitting are obtained.

GRID Logistics will work to secure preferred federal tax treatment for project bonds, and designation of the GRID Project as a “Project of National Significance” where constructed in the United States. This is a reasonable expectation in view of the job creation, long-term freight cost reduction, and massive pollution mitigation that GRID will introduce. Such designation allows for a streamlined permitting process, which will assure quicker build-out and a reliable timeline of returns for investors. GRID Logistics will also negotiate with the applicable government authorities for obtaining the necessary rights-of-way and other public contributions, as well as for forming any necessary Joint Powers Authority with which to negotiate the project details and permitting.

Build Phase

Phase 2 will include finalization of designs and initiating construction of the GRID Project. A special purpose company, with oversight and direction provided in part by new GRID Logistics, Inc. personnel, will accomplish this work. Project management companies will be selected to coordinate construction and keep the project on schedule. Initial design is expected to take one year and construction is estimated at six years. Operation of some incremental completion of the SuperDock™ berthing, together with completing the first section of the Freight Pipeline, are expected to occur within the first four years.

GLI will supply any reinforced concrete tunnel liner sections needed for a freight pipeline. GLI management has experience in such material manufacture and supply. GLI will also be paid for project oversight and various lobbying and legal expenses. These costs are assumed in the financial plan to be carried within the income and costs associated with tunnel liner section supply.

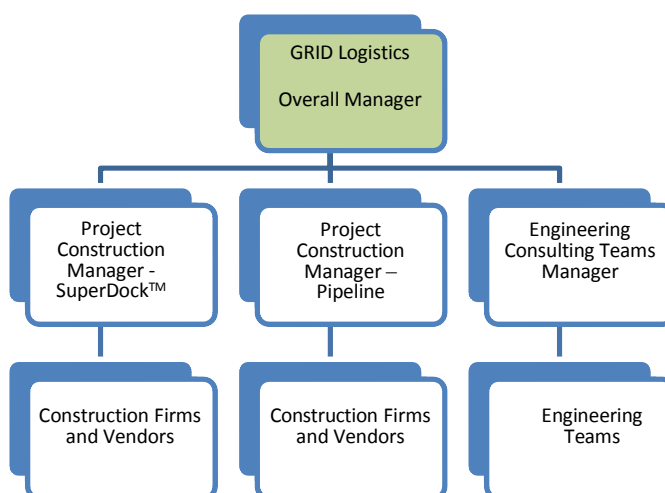


Chart 1: Design-Build Special Purpose Company Organizational Structure

Today, foreign companies are the primary supplier of ship-to-shore cranes, terminal cranes, and other container moving equipment in this space. One goal of the GRID Logistics team is to use local manufacturers to build the infrastructure. The scope of the project both justifies and inspires the necessary investment in innovation manufacturers would need to get the job. The SuperDock™ concept will create a disruptive effect in a space where creative disruption is greatly needed.

Operate and Maintain Phase

This phase denotes the operational phase of the SuperDock™ and Freight Pipeline, and will begin when the first incremental section is finished. GRID Logistics, Inc., remains open to a joint venture or other partnering arrangement for provision of ship, rail, and trucking services, and expertise.

The organizational structure of the GRID Logistics, Inc. consortium, during operation of the system, is shown in Chart 2 below:

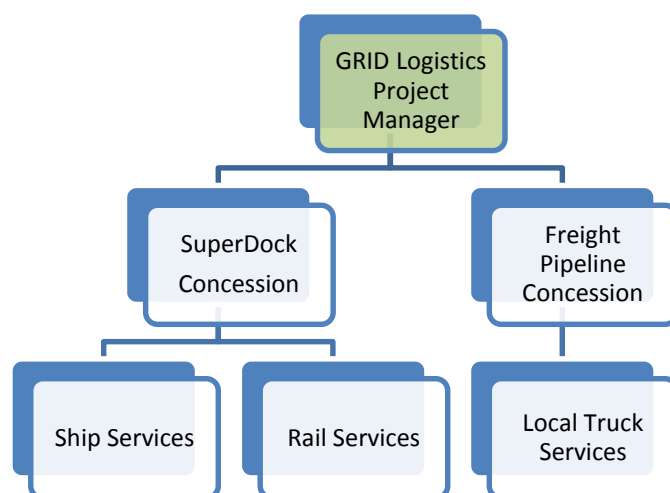


Chart 2: Organizational Structure for Operating and Maintaining Concessions

Strategic Partnerships

As GLI continues to develop the concept of the GRID Project, key partnerships will be made to take on the various components of project development. GLI will partner with political and legal consultants to secure approvals and permits for the projects, and with major engineering and design firms, construction companies, and financiers to form a consortium of companies that will ultimately build the GRID infrastructure.

Business Model

The ports presently collect revenues based on container units discharging and loading from ships. They establish a land lease agreement with the terminal operator on the expectation of a certain number of container moves annually. GRID proposes to divorce the relationship of land to container volumes transferred to and from container ships, while maintaining revenue rates per container. This “per container TEU rate” creates an even playing field for all shippers. This model is similar to that of the Panama Canal concession. With the consortium’s financing of the GRID Project’s port infrastructure, ports are relieved from self-financing and subsequent years dedicated to debt repayment.

Marketing Activities

Port Technology International featured an [interview](http://www.porttechnology.org/news/grid_logistics_smashes_pti_records) with GLI’s CEO David Alba regarding the GRID system in their October, 2014 on-line magazine. That article received the highest response in their history, (www.porttechnology.org/news/grid_logistics_smashes_pti_records). Following that internet publication, GRID co-founder David Alba has been invited to panel discussions around the world. A top priority of Mr. Alba’s participation is to create global industry awareness of GLI, the GRID system, and its potential applicability world-wide.

As GLI begins to be publicly recognized as a regional freight transportation solution, marketing activities will be appropriate for each stage of GLI’s development. Currently, the most important marketing for GLI is to appropriate governmental agencies and toward providing political cover for government officials making decisions regarding GLI’s potential inclusion in transportation plans. Online marketing has also been beneficial to GLI’s outreach efforts. As GLI continues to

gain stakeholder traction in both private and public sectors, outreach to industry news outlets will be beneficial in furthering a positive perception of the GRID Project.

A 10-minute documentary on the GRID story has been completed for use in quickly informing and motivating the public to support the project in San Pedro Bay, (available for viewing at www.gridinc.biz). The GRID team mobilized supporters to respond to Caltrans' call for public comment regarding recommended processes for handling freight. While social media outlets continue to be useful in spreading awareness and support for GRID, personal and business introductions to GLI and development of governmental support remain the highest priority.

Detailed Project Timeline Description

Milestone Item	Description	Projected Time to Completion
Acquire grass-root support	Gather support from environmental, labor, and social groups to establish local support.	Completed in Southern California only
Stakeholder Support	Raise \$1M in seed capital. Continue to gain traction in relationships between ports, Class 1 rail, shipping lines, local, regional, and national government agencies.	1 year
Engineering Proof of Concept	Funded through \$1M seed capital	12 months following commencement
\$20M Capital Equity Raise	Following positive project study supported by LA and Long Beach, GLI will pursue private capital investments.	1-2 years
Secure Project and Form GLI Project Consortium, \$3.6B raise from Constructor or IPO	GLI forms consortium and secures first project. This can occur simultaneously with capital raise.	1 year
Entitlements/EIR	GLI / consortium will hire consultants as needed to secure entitlements and streamline any environmental review.	1-5 years
Shovel to ground	After land entitlements are issued and environmental review completed, construction will commence.	3-5 years
GRID Project Implemented	Construction phase will last approximately 5-6 years and system will be online incrementally therein.	
Total Project Timeline		8-15 years

Legislative support for streamlining project permitting can allow achievement of minimal completion timeline.

Financial Plan

Infrastructure Cost Estimates – San Pedro Bay model

Item	Components	Cost (billions)
SuperDock™		
	120 Ship Loading Cranes	\$3.0
	100 Miscellaneous Cranes	\$0.3
	Steel Framing	\$2.0
	Foundation, Piling	\$0.8
	Fill, 160 Acres, 75' Deep	\$0.2
	Electrical	\$0.5
	Environmental Mitigation	\$0.1
		<u>\$6.9 SuperDock™ Total</u>
Freight Pipeline + Feeder Terminals		
	Pipeline & Liner	\$7.9
	Rail	\$0.2
	Electric Motors & Wiring	\$0.7
	Miscellaneous Venting & Appurtenances	\$0.6
	Feeder Terminals	\$1.2
	Railcars	\$0.5
		<u>\$11.1 Pipeline and Feeder Terminal Total</u>

Rights-of-way for the Freight Pipeline to SPB assumed donated by Caltrans and by feeder terminal site cities.

Overhead Costs for Operations – San Pedro Bay model

Cost projections are based on the 2011 SPB port throughput of 14M TEUs, and increased for augmented throughput. Electrical energy costs for the SuperDock™ and Freight Pipeline are based on \$0.14/kW-Hr with inflation of 2% annually. Local supervision of the SuperDock™ and Freight Pipeline feeder terminals is estimated in 2013 dollars at \$21.5M. All other overhead (sales, engineering, IT, accounting, management), once the system is fully operating, is estimated in 2013 dollars at \$20M. Fuel costs for local truck delivery from inland feeder terminals is \$38.4M in 2013 dollars. 1410 trucks are required for 2011 container volumes. Truck lease cost for 1410 trucks is \$72.3M, plus \$17.6M for insurance. Patent royalty payments are set at \$1M annually during design, and \$6/container/lift during service. Port payments are set at \$29/TEU ship-to-gate, and \$10/TEU for transshipments. All of these costs are assumed to inflate at 2% annually.

Labor Costs for Operations – San Pedro Bay model

Labor costs for operation of the SuperDock™ have been estimated after evaluation of the 2011 Annual Report from the Pacific Maritime Association (PMA). Hours for each category of SPB port worker were assumed to be 70% of hours reported for all workers in each category by the PMA for the 2011 year, when 14M TEU passed through the SPB ports. These hours were then compared to the estimated number of hours needed for each category of worker on a SuperDock™ handling 14M TEU annually. Ship-to-shore and train-to-“shore” cranes on the SuperDock™ will be manually operated; other cranes within the SuperDock™ system will be automated.

The resulting analysis indicates that to support a volume of 14M TEU with current SPB operations, approximately 8975 workers are required. With a SuperDock™ handling 14M TEU and no other changes in business operations, approximately 6080 workers are required. Transshipment in the SuperDock™ is estimated to require 785 jobs for each 1M containers moved. Assuming that corresponding jobs in the feeder terminals for the Freight Pipeline are filled by dock union workers, (from the International Longshore and Warehouse Union, ILWU), approximately 81 ILWU workers will be required for each 1M containers moved, along with 831 trucker-related positions, assumed to be International Brotherhood of Teamsters workers. With freight growth of 2% annually, by 2023, 9322 ILWU jobs will be required to run the system, along with 3185 Teamster jobs. According to the PMA 2011 Annual Report, the average total ILWU compensation was \$195,000 per employee, including all benefits. 2011 Teamster total compensation, including benefits, is estimated at \$100,000 per employee. These costs are estimated to inflate at 2% annually.

Projected Revenues – San Pedro Bay model

Port volumes growth is projected herein to increase 2% annually from a 2011 base of 14M TEU. This volume is approximately equivalent to 7.8M containers moving through the ports, with 3.5M containers moving by Class 1 rail and 4.3M containers moving by truck delivery to Southern California. Of the 4.3M containers moving by truck, 70%, or 3.0M containers, are likely to be handled by the Freight Pipeline and feeder terminals. Important to note, 1.5 million class 1 rail truck deliveries are eliminated in the same manner the BNSF SCIG impacts propose. However, with SuperDock™ operating at full scale, all truck logistics between ship and Class 1 near dock rail transfer facilities (like SCIG) are eliminated and thus eliminating two costly and time-intensive operational moves (crane-to-truck-to-train) at or near port operations.

Phase 3 revenues are based on 2013 prices, inflated annually at 2%, for the following moves:

Ship to terminal gate or Class 1 rail:	\$350
Transshipment to ship:	\$150
Loading double-stacked rail:	\$150
Shipment through Freight Pipeline	\$350 (avg. rate)

These revenues are sufficient for the GLI system to be sufficiently profitable to attract 3P financing, assuming the rights-of-way for the project are provided free of charge.

Opportunities for Profit Growth

At least two opportunities for profit growth from the proposed infrastructure in Southern California exist. We expect that some form of cap-and-trade revenue from carbon credits could be derived from a GRID System build in California. Also, revenues presented here for the Freight Pipeline are only port-freight-related. We expect the Freight Pipeline to compete effectively against regional trucks in carrying city-to-city freight. No estimate of revenue for either of these opportunities is included herein.

Patent protection for SuperDock™ technologies provides an opportunity to implement similar freight systems around the world, including on the Gulf and Atlantic coasts of the North America, as well as the European Union, Mexico, Brazil, Hong-Kong, India, Malaysia, Japan, Korea, and China.

